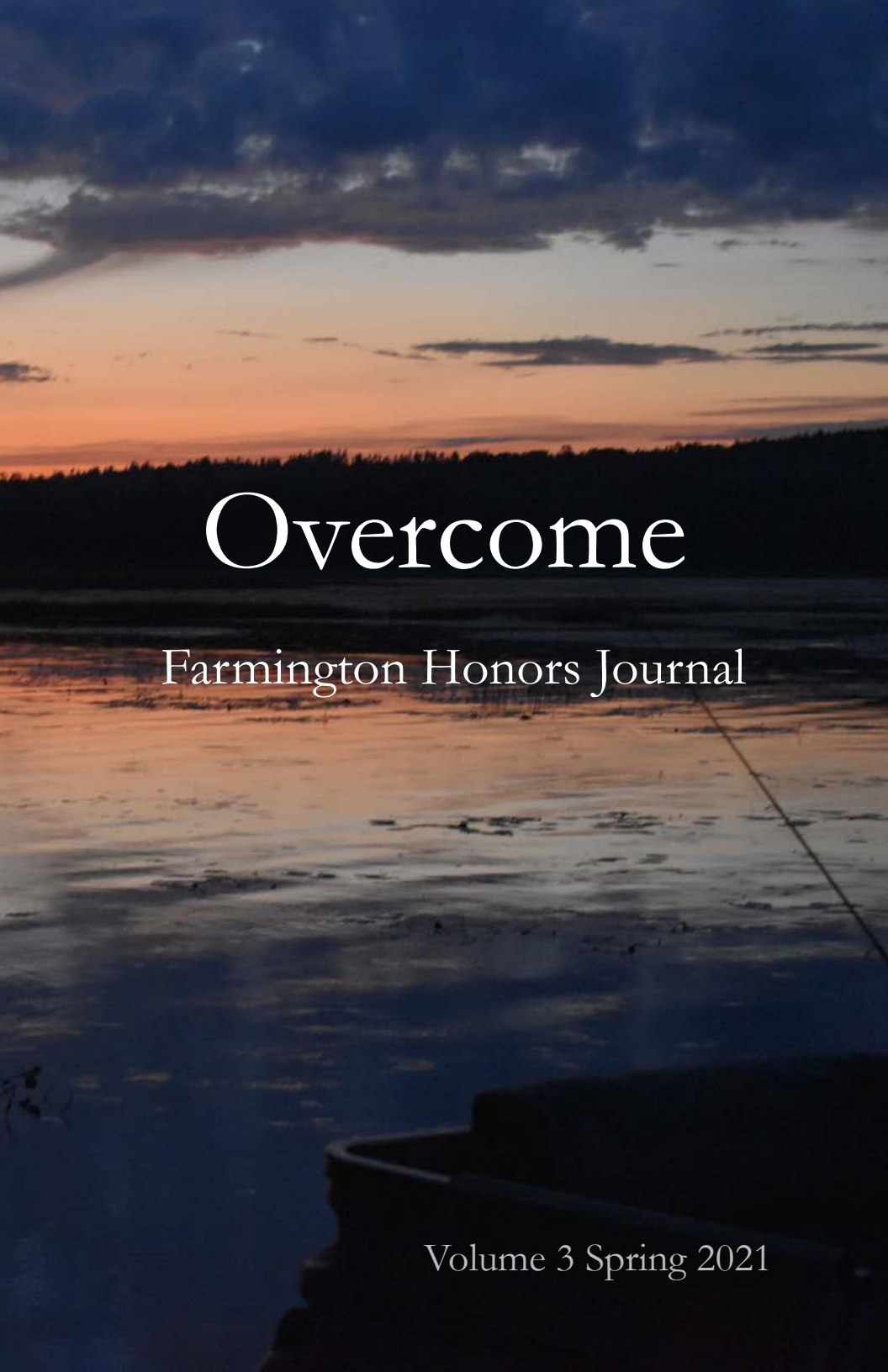
Spring 2021

Overcome: Farmington Honors Journal, Volume 3, Spring 2021

University of Maine at Farmington



Overcome

Farmington Honors Journal

Volume 3 Spring 2021

Honors Journal

Edited by BrookLyn Miller and Makena Pauly

Table Of Contents

FOREWORD

This marks our third Journal for the University of Maine at Farmington's Honors Department. Looking back at the works submitted to us this year we noticed a common thread between them. The delicate thread we discovered was that our artists were working through things, whether that be the shape of the loss of a loved one or struggles with self identity. It became apparent as we read, that humans have the strength to overcome, to show growth and discover through writing and art different ways to cope and to identify.

Their work has shown that our struggle during this pandemic was a unified one. These seven contributors have shown us through their own challenges, pandemic related or personal, the will power to persevere through life's obstacles. We hope this journal leads it's readers down the path of overcoming difficulty.

—The Editors,

BrookLyn Miller

Makena Pauly

My grandfather passed away in September, so I wrote this piece for him. He was one of the most important people in my life. It's raw and emotional, as I wrote it the day I found out, but it is something that has helped me cope with my grief. This is a piece about his 2007 Ford Ranger that he gifted to me earlier this year, as he was unable to drive anymore. I have a lot of fond childhood memories in this truck, so it means more to me then just a means to get from point A to point B.

Your 2007 Ford Ranger.

This little truck never really saw the road much. It was simply a vehicle meant for grocery store runs, McDonald's trips on Sundays, and hair appointments downtown. I remember childhood summers, driving with you and Mémère across the border. I knew the road from Lac Unique to Fort Kent like the back of my hand. At first, I was small enough to fit in the little bucket seat at the back of the cab. Then, as I got older, I nestled myself between both of you in the front. I sat in the middle of the driver's seat and the passenger seat, kind of squished in, but I didn't mind. You drove, one hand at the top of the wheel and your elbow propped against the window.

The french radio floated in the air, the language foreign to me, but I still felt comfort in its lilt and curling vowels. Static crackled in and buzzed against my ears. You rolled down your window, your arm turning the little crank on the door in circles. The wind rushed in, fluttering Mémère's meticulously pinned and sprayed hair. My wild brown locks started to fly if I didn't tie them up, so Mémère would braid them before we left.

My 2007 Ford Ranger.

It's silver, a metallic grey that reminds me of that watch you always wore and the rim of your glasses. It's dark outside. That's all I know as I walk heavily to lot nine. Lights are on in the dorms and students are milling around the streets. Farmington is alive tonight.

I am not.

I fumble for my keys with shaking hands. My fingers don't seem to work and this horrible weight that burns against my heart is blazing in my chest. Hot tendrils of invisible flames lick along my veins in a hungry frenzy. I get in, finally, and slam the door. It jars me enough to put the key in the ignition and start the engine. I pull out of lot nine and drive. I don't know where I'm going.

Numb.

I'm numb, yet I feel everything at once.

Too much.

I grip the steering wheel with white knuckled hands. The same steering wheel that you held on Sunday afternoon trips to McDonalds. I fall apart in the driver's seat. The same driver's seat you sat in on grocery store runs. Tears roll down and splatter onto the floor mat. The same floor mat that was there for every hair appointment.

I'm driving.

Farmington is unfamiliar to me, but even if I did know where I was heading, the sorrow would still blur the road signs anyway. I know it's not good to drive when you're emotional. I know it's dangerous. Normally I take a drive when I'm upset and it calms me down, but I'm not just upset.

I'm broken.

And I don't think it's the fragile kind of broken, like when you drop a vase. That broken vase has pieces that will fit together like a puzzle. You know you can fix that vase with some glue and a bit of patience. That's not *my* broken.

This is the kind of broken that has jagged edges. They don't match. There is no physical puzzle to sort out. It's this amalgamation of shrapnel that I have collected from the depths of loneliness and fear. I use these words to try and ease the sharp edge of death's blade but I am still cut so savagely by your absence.

It's the kind of broken that makes you scream instead of weep gentle tears. It's the kind of broken that makes your chest heave and rattle like violent turbulence. It's the kind of broken that stabs your heart until the pain is so unbearable that you clap your hand to your mouth in an effort to stop the ravaging sound threatening to erupt from your soul. I am a ravaged heart, bare and raw and bleeding these cruel memories of happy times spent with you.

I pull over on the side of the road.

This is your little Ford Ranger. This is your truck and you drove it and I can still see your face in the rearview mirror. I still see your kind eyes hidden behind grandpa glasses. I still have your canadian license plates shoved under the passenger seat. Though the scent is fleeting, I still smell laundry detergent and peppermint mouthwash. It's still your truck. To me it will always be your truck. You're just letting me take care of it now. And I do.

If I take care of this little piece of you that I have left, then maybe I can fix my broken. Maybe, instead of putting these fucked up pieces of ceramic flesh back into a delicate vase, I can make something new. Something real and brilliant and powerful.

Something for you.

I was inspired to write these poetry pieces while reading works by authors that I love and admire. These works gave me lines that helped me find the words to describe personal life experiences that I wanted to express.

-Inspired by Eclipse by Bruce Holsapple

Earth now aligned
sun by moon
your hands on my hips
lips by my ear
whispering the wind,
promises of stars
your fingers, cup their
dust
and blow a wish
for this moment.

-Inspired by The Swan by Mary Oliver

Across the wide waters
I know you're waiting
I can feel your
heartbeat
echoing over the space
your smile in the clouds
feel your arms in the crest
of waves
whisper your name into a bottle
watch it set sail.

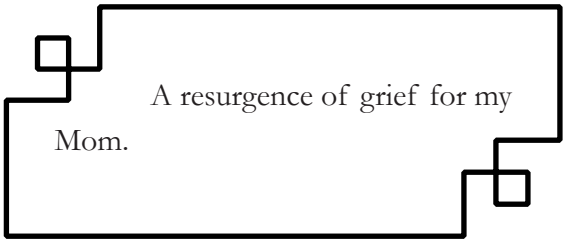
Take me with you
I want to call.

I sit in the sand
as I have every day
and wait for

a ship
on the horizon.


LOVE IS NOT
A CHOICE,
BUT HATE IS.
LGBTQ+ RIGHTS ARE HUMAN RIGHTS.


LOVE
IS NOT A
CHOICE
BUT HATE IS.
Gay rights are human rights


A resurgence of grief for my
Mom.

Gone is the sun and the shadows
The flowers which pepper her grave.
Gone is the light and the laughter,
The sense of home she gave.

The light has left e'erafter
The moon has broken her vow
To shine on the world e'er skyward
She joins the stars on a cloud.

Hush, my child, for sorrow
She lurks like a thief on the wave
A tiger who preys in the silence
And knows not what will remain.

Raw is the pain and the heartache
Echoes of a voice in a dream
A voice who is comfort and surety
Now fades with the day, unseen.

This piece was written for a class where we were required to write a short bit of prose, and then adapt it into various forms of media. This project is the screenplay adaptation of my short fiction story called The Monster. The main inspiration for that and this story was to explore a character who didn't want to be bad, but was pushed to do bad things by the people and environment around them.

EXT. SPACEPORT - DAY
We see a massive field full of concrete slabs for ships to land on. Dozens and dozens of ships of all shapes and sizes land and take off. One ship is a little more important than the rest, Little Duck is a crudely made ship, all harsh lines and right angles. The loading ramp in the rear is open, and her cargo is being loaded.

This cargo is walking, talking, and clad in orange jumpsuits. The prisoners walk a short way from the bus (a long line extending down the road) through a corridor of sorts made of riot shields. The shields are held by a mix of human officers and robots. The robots are simple things: a bucket for a head, rudimentary claws to hold stuff, a single red glowing eye as the entire sensor package.

One prisoner being led towards the ship looks terrified. His name tag reads ION. He’s short, barely 5 feet, with dark blond hair and the stickly frame of someone who’s been hitting something harder than booze and smokes. He looks to be about 30 or so, but he’s closer to 19-20.

Ion stops at the foot of the loading ramp, looking up into that maw. Next to the ramp stands DAMIEN (40'S), a no-nonsense man who is the captain of this vessel and looks like he was once extremely fit but has started to let himself go in his older age.

As Ion pauses. A guard steps forward and shoves Ion onto the ramp.

GUARD
Don't hold up the line, shitboot! Get moving!

Ion looks up at the captain, Damien, a pleading look on his face.

ION
Please! I didn't do anything! This is a mistake. I shouldn't be going to Rex Prime!

Damien sneers.

DAMIEN
I doubt that. Get moving.

Ion starts to get up, but it's too slow for the guard. He draws a batton of sorts, the end crackling with electricity. The guard hits Ion over the back, and there is a shocking boom as the electricity arcs all across his body. Ion screams in pain, but it's a good motivator. He gets up into the ship, double time. These stun sticks are the main way prisoners are 'motivated.'

INT. LITTLE DUCK - DAY

Ion makes his way through the ship. Now the human guards have been entirely replaced with robots. As the prisoners enter, the robots have them pass through a scanner before one escorts a pair to a cell.

Ion and his cellmate get escorted to their cell. It looks even worse than the ship. Two beds in the wall with mattresses that are closer to a concrete slab then anything close to comfort. A single toilet is in plain view of the cell and the bar door. Everytime Ion will take a shit he'll be putting on a show for half the block.

Ion takes a seat on the lower bed, whimpering from the pain. He rubs his shoulder, as if it will help. His cellmate leans against the bar door, looking at the retreating robot, and the many others that are escorting prisoners. He turns to face Ion and his name tag reads MAXWELL.

Maxwell is in his late 30's, a blond hair and blue eyed beauty, he isn't handsome, he's beautiful. He's skinny, but his gaze is keen, and it's obvious to us that there's a lot going on behind those baby blues.

MAXWELL
Damn kid, you must be new. Everyone knows that trying to sweet talk a prison captain is about as stupid as you can get.
Ion huddles defensively.

ION
It's true though. Sure, I robbed a place, but you don't send robbers to Rex Prime. That's only for the bad people.

Maxwell snorts, a slight smile coming to his lips.

MAXWELL
The bad people are whoever the fat pigs up top decide are bad. Doesn't matter what you did.

Maxwell makes sure no-one is watching. Human or robot. There is none.

MAXWELL
Listen. I would rather not be here, same with everyone on this boat. I've got an idea on how to get out of here, but I need some stuff. You think you can grab it for me?

Ion looks at Maxwell, the skepticism clear in his face.

ION
Why don't you get it yourself?
Maxwell glides over the question with practiced smoothness.

MAXWELL
The people in charge of this boat, that lovely captain you met? They're gonna be keeping a close eye on me, 'cause they think I'm dangerous.

ION
And are you?

Maxwell shakes his head.

MAXWELL
Are you dangerous? Of course not. We're only monsters if the people in charge want us to be monsters. You want to be a monster, kid?

Ion shakes his head.

MAXWELL
That's what I thought. Now, in this kind of place, everyone and everything is gonna be pushing you to be a monster. You help me out, and I can try my best to keep that from happening to you. Deal?

Ion pauses, thinking, before nodding. Maxwell smiles, which doesn't quite reach his eyes, as he holds out a hand to shake with Ion. Ion takes it, and the partnership is born.

MAXWELL
Let's get to work.

CUT TO:

INT. THE MESS HALL - DAY

This is the largest room on the ship. Key word here is 'largest' and not 'large.' The 100 prisoners are crammed into a space just barely big enough to fit them and the tables/benches used for eating. On the far wall is the food processor which spits out slop when a bowl is put under it.

Ion is wedged between two guys that are ripped and ready. Maxwell is in line to use the food processor. Ion catches Maxwell's eye, who nods. Ion immediately stands up and wiggles out of his spot, which is instantly filled by the two big guys who desperately need the space.

Ion starts to maneuver his way through the crowded room. Soon, he comes up to his target. An older GUY (70's) is at the table eating. Ion stands behind the guy, no place to sit near him.

The guy looks up, noticing Ion.

GUY
Can I help ya, son?

ION

Maybe, Maxy boy. You got a package?

The blood rushes out of the guy's face faster than a bullet train.

GUY

Oh. Uh. I don't, sorry. I couldn't get it on without getting pinched.

ION

Oh. Um. Ok.

Ion leaves and starts heading towards Maxwell. The guy looks relieved for a second, only to realize where Ion is going and who he is meeting. The guy looks at the door, but it's too far away and there are too many people he starts trying for it anyway.

Ion gets to Maxwell before the guy is even out of his seat.

ION

The guy didn't have it.

MAXWELL

(Angry)

What? He didn't fucking have it?

Ion looks a bit taken aback at Maxwell's anger.

ION

Uh. Ya. Is that a problem?

MAXWELL

Ya. It's a pretty big fucking problem. Let's go have a chat with this idiot.

Maxwell starts pushing towards the guy. Ion follows, concerned about what's happening. The guy sees that Maxwell is coming for him and starts pushing harder. At about the same time Maxwell gets close to the guy, Ion steps up, trying to stop Maxwell who, at this point, looks like he's about to kill a bitch. The guy, panicking, whips out a shiv and goes to stab Maxwell, however, Ion steps in front of him at the last moment.

Maxwell shoves Ion out of the way, jumping out of the way of the stab. With quick

reflexes, he grabs the guy's wrist and twists, making the guy drop the shiv. He then knees the guy in the gut. The guy doubles over and Maxwell punches him down to the ground. The people around leap to their feet. They can smell blood and start cheering, some not even knowing what is going on.

Maxwell searches the guy's pockets, and comes out with a package of electronics.

MAXWELL
(FURIOUS)
You steal from me! Take my shit and try and slip away! Try and kill me and mine!

Maxwell gives the guy a swift kick and gets a cry of pain in response. He then turns to Ion and nods at the guy. Ion shakes his head. He has no intention to beat this guy while he's down. Maxwell grabs Ion and brings him close, close enough that the others can't hear.

MAXWELL
You have to do it. These guys are

monsters. In their mind there's prey and the predator. You don't punish someone who tried to kill you, you become the prey. You have to show them you're a predator, or I can't help you. Do it. Now!

Maxwell shoves Ion towards the guy. Ion looks around, seeing everyone cheering, egging him on. He looks down at the old man. He gives one half-hearted kick. Then another one. Then a full kick. Now he's beating the everloving shit out of this guy. The guy lets loose a scream of pain and there is blood on his lips. This is echoed by someone by the door.

Robots are moving their way into the mess hall, riot shields out and stun sticks on full power. The captain in full riot gear is safely behind the wall of robotic steel.

DAMIEN

Robots! Full riot control mode. Prisoners! On the ground, now!

The robots, who were only shoving with their shields and occasionally using their

stun sticks switch strategies. They start using their stun sticks liberally. None of the prisoners hit the deck. They all make a run for it, trying to get around the bots. Maxwell pulls Ion back and waits for a bit for the robots to leave the door. Once he sees an opening, he makes a brake for it, Ion in tow.

CUT TO:

INT. ION AND MAXWELL'S CELL - NIGHT
Maxwell is on the floor, messing with the parts he got. Ion lays on his bed, looking at the bottom of the other bunk, but not really seeing it. Maxwell can sense this.

MAXWELL
Good on you today. You showed that you're a survivor. A predator.

Ion replies without looking at Maxwell.

ION
I'm just not sure that was the right thing to do.

MAXWELL
Then why'd you do it?

Ion takes a long second to answer, gathering his thoughts.

ION
Because I want to survive. You were right, I guess. You're the prey or the predator.

Maxwell smiles.

MAXWELL
I knew you had some brain matter in there somewhere. Now hold on to something.

Ion does so, frowning in confusion. Maxwell plugs the gadget he's been working on into an outlet in the wall. It lights up like a christmas tree and Maxwell grabs the toilet just as the ship reels like it was dropped kicked by God.

EXT. LITTLE DUCK, MOMENTS BEFORE - DAY
The Little Duck is making her way through space. Suddenly a thruster on the port side blows, sending a fireball, bits of hull, and other debris into space. A white cloud follows the fireball, the oxygen that

was in that chamber, along with a bunch of robots.

The ship starts spinning, and we see a planet, a blue and green marble. The Little Duck is heading straight for it.

INT. THE CELL - NIGHT
Alarms blare and people scream. Ion and Maxwell are pasted to the wall. The ship spins like a top pressing them against it. With a scream of metal, flesh, and air the ship crashes.

A long moment of blackness.

Ion digs himself out of the cell, giving Maxwell a hand out as well. He looks around. Nearby is a massive hole in the side of the ship. Ion and Maxwell walk over, looking out at a green field of grass. Much closer, the captain is on the ground, a couple of toughs standing over him.

Maxwell walks up to the captain, looking down at him with contempt. One of the toughs hands Maxwell a gun.

TOUGH

He had it on him. Didn't even draw the damn thing.

Maxwell looks at the gun, a simple snub nosed revolver.

MAXWELL

It's only got six shots. Not much use against a hundred monsters coming after him.

The tough nods, smiling with savage intent. He walks away as Ion walks up next to Maxwell. He is also looking down at the captain, though not quite with the same malevolence. There is certainly dislike, but no hatred.

Maxwell hands the gun to Ion. Ion takes the gun, though not really expecting to get it.

MAXWELL

You should be the one to show this piece of shit what happens when you mess with a predator.

Ion holds the gun for a moment. He points it at the captain, who holds his breath. Ion holds the gun, but his arm starts to shake.

MAXWELL

I thought you wanted to be a predator. He is prey. He treated you like a monster! Show him what happens when you make the monster!

Ion's arm shakes harder, before it drops.

ION

I can't.

Maxwell snatchs the gun from Ion with a snarrl. He goes to shoot the captain, but he is shot just before he pulls the trigger. Ion hits the dirt, looking to see what shot. He sees a band of marines letting loose with auto fire, mowing down the prisoners.

Ion keeps his head down.

FADE OUT:


PRIVILEGE
IS NOT HAVING
YOUR
LOVE
VOTED ON


TRANSPHOBIA
IS NOT
A POLITICAL
OPINION
TRANS RIGHTS ARE HUMAN RIGHTS

I just started writing, focusing on the idea of poetry as creating a picture of the self, and over a couple drafts, it came out like this.

But don't lie to me
you coward—
telling me that this much of me,
(the me composed of cardboard and string,
of crumpled pieces of paper and
fountains of ink spewing out
of broken pens)
is enough,
like a monkey won a lottery and became human.
sometimes my brain covers itself in ideas,
like hot wax, dripping;
later, heavy like a rusty corpse
made out of fool's gold,
and as a child I held the rock,
affixed, and certainly was a fool—

I know just as well what you know—
the way a word can sting upon the page as a buzzing hornet, or the way a leaf sways as it falls from a tree, and lulls me into rest, the dreamless nights that feel only half asleep but are still not awake, like my half-hearted glimpses at the moon—

And I feel just as well what we feel—
the half melted throne of disheveled hearts,
my mishmash,
my conglomeration,
all tied up in the unlocked box
with the faded name, Pandora, on the bottom—

But nothing else—
no other people from paper or ink,
or ideas out of milk, honey, wax.
no stinging words,
or unlocked boxes of the liver, spleen, heart—

Are we trapped here—
A blue suv slides down the street,
and a crowd walks by the cafe, and still I
am only my own reflection trying to mold
people into paintings—

I am very passionate about the changing climate and how it affects not only the United States, but the rest of the world. People in other countries are seeing devastating effects of warmer temperatures, more frequent storms, sea level rise and many other problems due to increasing emissions of greenhouse gases. Urbanization of our world is affected too and I wanted to compare these two concepts focused on two developing nations.

Urbanization and Climate Change in Bangladesh and Nigeria

Introduction

In a world with a growing population and more demand for natural resources, humans have created hotspots for climate issues through urbanization. Climate change has been happening for hundreds of years as humans began practicing deforestation, burning fossil fuels, and sending greenhouse gases into the atmosphere, trapping heat from the sun. Global warming has occurred due these actions and humans have accelerated this process even further by consuming resources such as oil and gasoline, which emit carbon dioxide when burned, at a faster rate every year. People moving to places of high density is known as urbanization, and this is very prominent in developing countries. Rural areas may not have enough jobs where families can make a living and are surviving in poverty. Cities can provide new opportunities to people such as better jobs and higher standards of living as they usually are the economic powerhouses of the region. These places concentrate thousands and even millions of people in a relatively small area.

Industrial areas and high productivity in cities has led to a lot of daily produced pollution. From cars and airplanes to litter on the streets that end up in waterways, cities concentrate the human carbon footprint in a small space. Factories and other businesses release greenhouse gases into the atmosphere and degrade the air and water quality. Urbanization amplifies these occurrences making climate change have greater effects on certain areas of the globe. Many of the world's most polluted cities are in south Asia and this is a concern for the rest of the world and the people inhabiting those problematic areas.

Urbanization and climate change go hand in hand as one drives the other. More people in cities leads to more waste and pollution produced speeding up climate concerns in the region. This paper examines urbanization and climate change in our world today and looks at Bangladesh and Nigeria, two case studies of high urban populations and environmental concerns.

Literature Review

(Satterthwaite, 2009)

Many lower income countries have urban and rural areas that do not have electricity, thus not using fossil fuels. When people use goods and services from non renewable sources, greenhouse gases (GHG) are released into the atmosphere and most of this happens in developed countries. David Satterthwaite studied carbon dioxide emissions in 43 lower income countries and found that almost half of them used charcoal, wood, straw, and dung as fuel for cooking. He also found consumption levels remain low even when switching to fossil fuel energy leading to very low consumption levels per person in low income nations. The main takeaway is countries with rapidly increasing populations do not coincide with high GHG emissions.

(Romero-Lankao et al., 2014)

Urban areas take up about 3% of the world's land area, but account for 67-76% of energy use and 71-76% of greenhouse gas emissions. Romero-Lankao et al. in 2014 studied how acceleration in the growth of urban areas and the large proportion of greenhouse gases has made many cities around the world commit to mitigating the effects of

climate change by reducing consumption of fossil fuels. High income countries have generally seen exponential use of energy and carbon emissions with not much of a dramatic uptick in populations while low and middle income nations have experienced relatively linear increases in energy and carbon emissions while dealing with exponential population growth. In Asia and Africa, most of the population growth is happening in smaller urban areas. The uncertainties in predicting how cities and climate change will interact in the future includes city urbanization, environmental factors, and the impact of carbon feedback from urbanization.

(Filho et al., 2018)

Climate vulnerability for a certain region depends on the frequency and damage of extreme weather events, wealth, development, and policies. A study done by Filho et al. in 2018 looked at six cities in Africa and the challenges they will face with climate change. Lagos, Nigeria will face rising sea levels, increases in rainfall and temperatures, along with an inability to cope due to population densities and infrastructure. Other issues that will occur in respective places are storm surges, flooding, property damage, changes in vegetation coverage, and health risks associated with drinking water. Adapting is more challenging for cities with rapid population growth, high poverty levels, and environmental degradation. Cities like Addis Ababa, Dar-es-Salaam, and Accra all face different challenges in various regions of the continent and some cities have started infrastructure plans in an attempt to fight climate change.

(Begum, Hopke, & Markwitz, 2013)

Air pollutants such as ozone, carbon monoxide, and black carbon come from the burning of fossil fuels, biomass burning, traffic, and brick making in developing countries. Black carbon is the result of inefficient burning and leads to ground level ozone formation and acts by absorbing light and warming the air. Begum, Hopke, and Markwitz studied particulate matter in Dhaka, Bangladesh in 2013 and observed during winter, the mass concentrations were the highest. Pollution from vehicles is very high in Dhaka due to congestion and 2.5-3.0% sulfur content in diesel trucks. Other sources of particulate matter and black carbon include the city's Pb acid battery factories, brick factories, and many other industries that release many other elements into the atmosphere and soil. Regional pollution occurs from emissions in densely populated areas around southeast Asia coming together to degrade the air quality and create the Asian Brown Cloud.

(Banks, Roy, & Hulme, 2011)

Urban poverty is a defining characteristic of cities in Bangladesh. People leave rural areas due to lack of work and land erosion, so this suggests that most residents moving to urban areas are poor, raising the number of poverty stricken people in the city. Banks, Roy, and Hulme studied urban poverty in the country and claimed that 300,000 to 400,000 people migrate to Dhaka every year. The issue of urban poverty has been overlooked by the government for many years and lack of representation for the people has not allowed for poverty reduction to be a main goal. Urban areas are priorities for the government, but the poor

have only indirectly benefited by investments in infrastructure. Bangladesh has taken the lead in addressing climate change with 2005's National Adaptation Programme of Action and the 2009 Bangladesh Climate Change Strategy and Action Plan, but still urban poverty is neglected in the equation for climate change actions.

(Farrell & Nijkamp, 2019)

Urban transition has been happening in most developed countries for 200 years while developing countries have only seen this in the last 65 years. A study done by Farrell and Nijkamp in 2019 looked at urban systems in China, Nigeria, and India. Spatial transformation occurs during urbanization and changes the distribution of the population, from mostly rural to dense urban areas. New patterns of urbanization have been observed that went on to form megacities. Small towns of 10 to 20 thousand residents are the largest proportion of urban areas in Nigeria and India while China has more cities with 20 to 50 thousand people.

(Streatfield & Karar, 2009)

Bangladesh is one of the most densely populated countries in the world and currently averages 2,600 people per square mile. By the year 2050, this number is expected to jump to 4,500 people per square mile. The problem is that rural areas will cease to grow population wise while the urban areas will experience tremendous growth. Crowding is a major issue as there are slums within the major cities like Chittagong and Dhaka that are home to thousands of people who have nowhere else to go except for the single story structures.

Most slums are located in low lying areas and are subject to flooding. About 30 million people are living in coastal areas and islands very susceptible due to global warming effects. Water availability and agriculture are negatively affected by urbanization, and future climate change in terms of rising sea levels will exacerbate these issues. When ocean levels rise, coastal regions of Bangladesh, which are densely populated, will suffer as the land is covered by water.
(Ayeni, Amidu Owolabi Dr., 2017)

Lagos, Nigeria is one of the fastest growing megacities (a very large city with over 10 million residents) in the world and population increases has put pressure on the resources in the area and has made a need for urban expansion. Urban thermal discomfort has occurred due to crowded housing, traffic, and industrial production. Insignificant increases in rainfall and temperature have been seen since 1960. Land use has changed in the past 55 years due to urban expansion. In 1976, about 6.4% of Lagos State was urban land while in 2015, this number rose to 22.6% totalling 805 square kilometers of land. Higher demand for water has put pressure on the supply and Lagos' rapid growth has deteriorated the quality of the water. Runoff pollutes the water with toxic metals and other human debris. Climate change, in particular flooding of the nearby lagoons, will pose threats to the people living in Lagos along with the limited availability of clean water.

General Background and Demographics

Bangladesh and Nigeria are two developing nations, and both are in the top ten most populous countries of the world making them

interesting case studies. Bangladesh lies along the Bay of Bengal in southeast Asia. As of 2018, the country had over 161 million residents with around 36.6% living in urban areas (The World Bank, 2018). Interestingly, 40.7% of the population is aged 25 to 54 years as there are relatively low numbers of young people in the nation (Central Intelligence Agency, 2018). Life expectancy here is about 72.3 years along with a fertility rate of 2.04 children (United Nations Development Programme, 2018).

Nigeria has the highest GDP ($376.4 billion) of any African nation with oil and gas being a main source of income and is home to 195 million people (Central Intelligence Agency, 2018). About 50.3% of the residents live in urban areas and this number is growing at a rate of around 4.23% per year from 2015 to 2020 (The World Bank, 2018). Some large cities include Lagos, Kano, and Abuja which are home to millions of Nigerians. As for the people, over 41% of the citizens are ages fourteen and under. The age structure diagram is a pyramid shape, in line with a high fertility rate of 4.72 children per woman (Central Intelligence Agency, 2018). Life expectancy in Nigeria is a mere 54.3 years (United Nations Development Programme, 2018).

Data and Discussion

Indicator	Bangladesh	Nigeria
Population	161,356,039	195,874,740
CO2 Emissions (kt)	73,189.65	96,280.75
Nitrous Oxide Emissions (thousand metric tons of CO2 equivalent)	26,683	36,185
% of Electricity from Fossil Fuels	97%	80%
Population Growth Rate	1.05%	2.59%
Urban Growth Rate	3.19%	4.24%
% of population living in urban areas	36.63%	50.34%
Population Density (per square km)	1239.579	215.065
Life Expectancy at birth	72.3 years	54.3 years
Fertility Rate	2.04	5.39

Table 1. Comparisons of variables for Bangladesh and Nigeria. Data compiled from the World Bank Development Indicators and values as of 2018 information.

Nigeria and Bangladesh are two of the most populous countries in the world and are very different in demographics and other statistics. Both have considerably high urban growth rates while fertility rates are very different in the two nations. Nigeria's very high fertility rate of 5.39 births per woman is accompanied by a low life expectancy. On the other hand, Bangladesh posts an average lifespan of eighteen years longer than the Nigerians. Growth rates are also higher in Nigeria for overall population and urban areas. Interestingly, Bangladesh produces more energy from fossil fuels than Nigeria, but has lower levels of overall carbon dioxide and other greenhouse gas emissions. Each nation has setbacks in terms of handling climate change and increasing urbanization, but plans have been created and implemented to combat

the effects of these interrelated issues.

Issues, Policies, Obstacles

Bangladesh and Nigeria each have their own situations to fight against in terms of climate change. As a coastal nation, Bangladesh is at a major risk in the future of sea level rise and damage from flooding. Large sums of people live on the coastline and this puts them in a difficult state. Climate change impacts have already been seen in Bangladesh and in 2009 the country launched the Climate Change Strategy and Action Plan (BCCSAP) focused on five pillars: food security, protection and health, disaster management, infrastructure, research and knowledge management, mitigation and low carbon development, and lastly capacity building and institutional strengthening (MoEF, 2009). This plan is needed for low lying areas that are very vulnerable to climate change and because of their high concentration of poverty stricken people who live in coastal areas that will suffer the worst effects of rising seas and cyclones. Challenges occur with fighting climate change because the people most at risk are poor and spending money for new infrastructure and repairing damage halts people from escaping poverty. Bangladesh's natural hazards make it harder to cope and it ranks as the most vulnerable country in the world to tropical cyclones and the sixth most vulnerable to floods (MoEF, 2009). This is concerning as more rainfall is expected in future decades along with more frequent droughts.

One way Bangladesh can deal with climate change induced issues is by investing more in the urban poor. As the population continues to grow and the coastline becomes more uninhabitable due to sea level rise, there will be problems with housing and providing for all residents. 20

million people are expected to be displaced from rising seas and unplanned urbanization is going to become a major issue (MoEF, 2009). Something interesting about this predicament is that the fertility rate of the country is low compared to other developing nations. At just 2.04 births per woman, the country is below replacement level. Unlike other countries with four or more births per woman, the growth rate is also low. With population growth more stable as compared to other nations, Bangladesh has some room to focus on climate change. Putting money into building better infrastructure and in places further from the coast could be beneficial.

A major issue in Bangladesh is not just coastal areas and flooding, but the presence of pollution. In fact, Bangladesh is considered the most polluted country according to air quality reports measuring fine particulate matter (PM2.5) in all areas of the globe (IQAir, 2020). Recent levels of PM2.5 in Bangladesh indicated values that were eight times the WHO exposure recommendation. In 2019, the average air quality index was 83.30 $\mu g/m^3$, which ranks as unhealthy. In comparison, the United States had an average PM2.5 level of 9.04 $\mu g/m^3$ in the same year and was on par with the WHO air quality target (IQAir, 2020). Brick making is a source of the majority of pollution in the country. About 7,000 brick factories litter the nation emitting dust, smoke, and other chemicals into the atmosphere as bricks are fired in kilns (Shachi, 2019). Dhaka, a city feeling the effects of rapid urbanization has hundreds of brick making sites in the city. PM2.5 is released during combustion and layers the city in dust inhaled by residents. Other air pollutants found in samples from around the country include ozone, carbon monoxide, sulfur dioxide, and

nitrous oxide (Shachi, 2019). Traffic and burning trash are other sources of greenhouse gas emissions but coal combustion in the kilns contributes the most to the country's struggle with air pollution.

New urban areas must be built to be resilient to climate change and existing areas should work to become more environmentally friendly in order to make the country safer. Despite air pollution issues, Bangladesh actually only emits 0.2% of the world's greenhouse gases (MoEF, 2009). Developed countries are responsible for the majority of emissions leading to climate change which begs the question of fairness for where devastating effects are seen the most. Lower income countries have fewer means to fight climate change which is created mostly by the higher income nations. Consequently, if Bangladesh can put more money towards resilience and cleaner energy, the nation could successfully deal with the increasing pressures of urban areas in the face of destruction.

In contrast to the coastal city Bangladesh, Nigeria's location puts the spotlight on desertification and major increases of temperatures, less rainfall, and other problems associated with climate change. Sustainable development goals are being pursued in the nation, because climate change could reverse the progress that has been made. Poverty may go back up when droughts are more common and agricultural production falls, leaving people with less income. Rain is essential for crops in the country and with 23% of the workforce in agriculture, losses could be devastating for the nation (Yahya, 2019).

Lagos, Nigeria is expected to be the largest metropolis ever in the coming decades and currently has an array of issues with quality of life and environmental impacts. Rapid urbanization has brought millions to

the city to seek better jobs and with minimal housing, many poor families end up in slums. Poverty is high here and the streets are full of traffic along with vehicle fumes, and treated water and sanitation is lacking in many areas (Vidal, 2018). Issues must be addressed to avoid a backfire in the goal of urbanization. Slums, poor air quality, emissions, traffic congestion, and high poverty rates, and lack of food and water will degrade the quality of life. The National Adaptation Strategy and Plan of Action on Climate Change for Nigeria was launched in 2011 aiming to invest in low carbon fuels, high growth, and a resilient economy (Department of Climate Change, Abuja, 2015). This African economic powerhouse must act fast to mitigate long term effects of a growing nation with highly urbanized areas in a world with finite resources and limited time to change actions. In 2015, Nigeria ratified the Paris Agreement and is seen as leading the way in climate change among African countries (Yahya, 2019). Following plans, Nigeria would work toward lowering carbon emissions by 50% while still growing the economy.

Population issues are going to be a major threat in the face of handling urban growth and climate change. In Nigeria, only 16.5% of women are using a method of contraception and the nation has one of the highest ratios of births per woman in the world (The World Bank, 2018). A method to combat climate change and overall health of the nation would be more investments in contraceptives for couples, sexual education, and promoting gender equality. Raising the overall age of women during their first childbirth would help create smaller families, allow women to pursue education and jobs, and to have more equality in society. Increasing access to education for girls and women could allow

them to make more money, have better paying jobs, and put off having children until later in life. Currently, a high fertility rate is contributing to a high growth rate of the population. Countries that have an older age for women at their first childbirth tend to have fewer children. A lower fertility rate slows the population growth rate and fewer people would mean resources would not be consumed as fast, slowing down climate change and the release of greenhouse gases. Eighteen years old is the median age in the country and this shows that the majority of people are young and fertile, leading to increases in the population (Vidal, 2018). If Nigeria cannot control the fertility rate and urbanization continues, the city of Lagos could become home to almost 85 million by the end of the century covering hundreds of miles and causing major environmental damage (Vidal, 2018). Education for women and investments toward them and children would benefit the system as a whole, slowing down growth and raising the quality of life for people. This nation has a very low life expectancy paired with high births, so more education and opportunities could enable this to change.

Conclusion

As two populous nations facing various difficulties between urbanization and fighting climate change, Bangladesh and Nigeria are leading examples of how the world is dealing with these issues. Bangladesh is experiencing sea level rise before most other nations and investing in infrastructure. Nigeria is working to use renewable energy and meet SDG goals along with ratifying the Paris Agreement. Mitigating the worst effects of climate changes will be the key to building sustainable cities

and reducing carbon emissions. As the Earth warms over the coming decades, countries will have to look to alternative energy sources and make the planet habitable in years to come. Growing populations in both Bangladesh and Nigeria along with high urban growth rates will face challenges of enough space, resources, and cleanliness to support all people in a changing climate. Urbanization and climate change go hand in hand, and it is up to nations like Bangladesh and Nigeria to overcome issues and lead the world to a more sustainable and highly urbanized future.

Ayeni, Amidu Owolabi Dr. (2017) "Increasing population, urbanization and climatic factors in Lagos State, Nigeria: The nexus and implications on water demand and supply," Journal of Global Initiatives: Policy, Pedagogy, Perspective: Vol. 11 : No. 2 , Article 6. Available at: https://digitalcommons.kennesaw.edu/jgi/vol11/iss2/6

Banks, N., Roy, M., & Hulme, D. (2011). Neglecting the urban poor in Bangladesh: Research, policy and action in the context of climate change. Environment and Urbanization, 23(2), 487-502. doi:10.1177/0956247811417794

Begum, B. A., Hopke, P. K., & Markwitz, A. (2013). Air pollution by fine particulate matter in Bangladesh. Atmospheric Pollution Research, 4(1), 75-86. doi:10.5094/apr.2013.008

Central Intelligence Agency. (2018, February 01). The World Factbook: Nigeria. Retrieved June 13, 2020, from https://www.cia.gov/library/publications/the-world-factbook/geos/ni.html

Department of Climate Change, Abuja. (2015, July 28). National Policy on Climate Change. Retrieved June 22, 2020, from https://climatechange.gov.ng/climate-knowledge/official-publications/policies/national-policy-on-climate-change/

Farrell, K., & Nijkamp, P. (2019). The evolution of national urban systems in China, Nigeria and India. Journal of Urban Management, 8(3), 408-419. doi:10.1016/j.jum.2019.03.003

Filho, W. L., Balogun, A., Ayal, D. Y., Bethurem, E. M., Murambadoro, M., Mambo, J., . . . Mugabe, P. (2018). Strengthening climate change adaptation capacity in Africa- case studies from six major African cities and policy implications. Environmental Science & Policy, 86, 29-37. doi:10.1016/j.envsci.2018.05.004

IQAir. (2020). Bangladesh Air Quality Index (AQI) and Air Pollution information: AirVisual. Retrieved June 14, 2020, from https://www.iqair.com/us/bangladesh

MoEF. (2009). Bangladesh Climate Change Strategy and Action Plan, 2009. Dhaka, Bangladesh: Ministry of Environment and Forests, Govt. of the People's Republic of Bangladesh.

Romero-Lankao, P., Gurney, K. R., Seto, K. C., Chester, M., Duren, R. M., Hughes, S., . . . Stokes, E. (2014). A critical knowledge pathway to low-carbon, sustainable futures: Integrated understanding of urbanization, urban areas, and carbon. Earth's Future, 2(10), 515-532. doi:10.1002/2014ef000258

Satterthwaite, D. (2009). The implications of population growth and urbanization for climate change. Environment and Urbanization, 21(2), 545-567. doi:10.1177/0956247809344361

Shachi, S. M. (2019, October 24). Bangladesh's Air Pollution Problem Grows, Brick by Brick. Retrieved June 26, 2020, from https://undark.org/2018/09/05/air-pollution-dhaka/

Shachi, S. M. (2019, October 24). Bangladesh's Air Pollution Problem Grows, Brick by Brick. Retrieved June 26, 2020, from https://undark.org/2018/09/05/air-pollution-dhaka/

Streatfield, P. K., & Karar, Z. A. (2009). Population Challenges for Bangladesh in the Coming Decades. Journal of Health, Population and Nutrition, 26(3). doi:10.3329/jhpn.v26i3.1894
The World Bank. (2020). Indicators. Retrieved June 15, 2020, from https://data.worldbank.org/indicator

UNITED NATIONS DEVELOPMENT PROGRAMME. (2018). Human Development Reports. Retrieved June 14, 2020, from http://hdr.undp.org/en/data

Vidal, J. (2018, March 19). The 100 million city: Is 21st century urbanisation out of control? Retrieved June 13, 2020, from https://www.theguardian.com/cities/2018/mar/19/urban-explosion-kinshasa-el-alto-growth-mexico-city-bangalore-lagos

Yahya, M. (2019, October 04). Nigeria must lead on climate change. Retrieved June 21, 2020, from https://www.undp.org/content/undp/en/home/blog/2019/nigeria-must-lead-on-climate-change.html

"Urbanization and Climate Change in Bangladesh and Nigeria" Emily Eaton: The Global Majority

Professor John Messier

--

"Failed Self Portrait painted with Feelings and Knowledge" Spencer Arnold: ENG 300: Poetry

Professor Jeff Thomson

"Predator and Prey" Ben Berry: ENG 277H: Digital and Immersive Storytelling

Professor Amy Neswald

"September 27th 2020" Katherine Berube: ENG 150: Intro to Creative Writing

Professor Amy Neswald

"Grief" Kayla Begin: ENG 150: Intro to Creative Writing

Professor Amy Neswald

Contributors

Spencer Arnold
Kayla Begin
Katherine Berube
Ben Berry
Emily Eaton
Audrey Keith
Isabelle King

Editors

BrookLyn Miller

Makena Pauly

Staff

Lisa Gallant

André Siamundele